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STATE OF CALIFORNIA

Governor's Office of Planning and Research
State Clearinghouse

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Loretta Lynch
DIRECTOR

September 24, 1999

Campbell

Rick Breitenbach
California Resources Agency
1416 Ninth Street
Suite 1155
Sacramento, CA 95814

Subject: CALFED BAY DELTA PROGRAM JOINT EIR/EIS
SCH#: 96032083

Dear Rick Breitenbach:

The State Clearinghouse submitted the above named Joint Document to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on September 23, 1999, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's eight-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts

Terry Roberts
Senior Planner, State Clearinghouse

Enclosures
cc: Resources Agency

1431 (2)

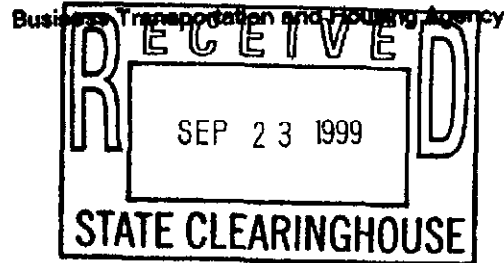
Note: Blanks in data fields result from insufficient information provided by lead agency.

**Document Details Report
State Clearinghouse Data Base**

1431(3)

Date Received 06/22/1999 **Start of Review** 06/25/1999 **End of Review** 09/23/1999

State of California

**Memorandum**

Clear
9-23-99

To: **BILL COSTA**
Department of Transportation Planning
Transportation Planning Program
P O Box 942874 - MS 32
Sacramento, CA 94274-0001

Date: September 20, 1999
File: Gen-Vars-Vars
SCH # 96032083
SOL000012

From: **DEPARTMENT OF TRANSPORTATION - District 4**
Office of Transportation Planning B

Subject: **USCE/USCG Public Notice (CALFED Bay-Delta Program)**

District 4 has reviewed the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and has the following comments regarding this project:

The project scope document is so broad and non-specific that a review to determine impacts to state roadways was not possible. More information needs to be provided on any potential flooding that might impact state facilities.

Section 5.7 of the EIS/EIR, "Transportation" states, "The Preferred Program Alternative could involve relocating highways, constructing new bridges and replacing or relocating local roads". Detailed information should be provided on which highways, bridges and local roads will be impacted, what the impacts will be, and the mitigation measures proposed to limit these impacts. The following Bay Area (District 4) roadways should be addressed in the analysis: I-80, I-280, I-880, I-680, I-580, SR92, SR84, and U.S. 101.

Should you require additional information or have any questions regarding this letter, please call Bonnit Braxton of my staff at (510) 622-1645.

Jean C. Finney
JEAN C. R. FINNEY
District Branch Chief
IGR/CEQA Branch

STATE OF CALIFORNIA-BUSINESS, TRANSPORTATION AND HOUSING AGENCY

GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION

DISTRICT 3, SACRAMENTO AREA OFFICE - MS 41

P.O. BOX 942874

SACRAMENTO, CA 94274-0001

TDD Telephone (916) 741-4609

FAX (916) 323-7589

Telephone (916) 324-6642

September 23, 1999

KSAC134

03-SAC/YOL - Various

Proposal Solicitation Package-Phase II

DEIS

SCH #96032083

Mr. Rick Breitenbach

CALFED Bay-Delta Program

California Resources Agency

1416 Ninth Street, Suite 1155

Sacramento, CA 95814

Dear Mr. Breitenbach:

Thank you for the opportunity to review and comment on the above referenced project. Our comments are as follows:

- With regard to proposed ecosystem restoration project areas and new "wetlands" designated areas, wherever feasible, Caltrans requests that such areas not be established or created adjacent to State highway corridors to avoid potential maintenance problems.

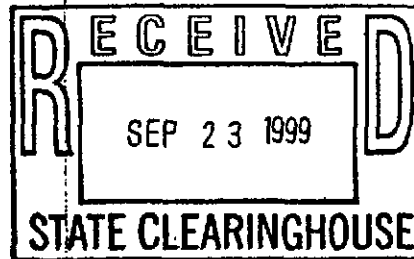
If you have any questions regarding these comments, please contact Ken Champion at (916) 324-6642.

Sincerely,

Susan R. Wilson

for JEFFREY PULVERMAN, Chief
Office of Regional Planning

c: Mosie Boyd, State Clearinghouse
Bill Costa, HQ TPP



State of California

1431(6)
The Resources Agency

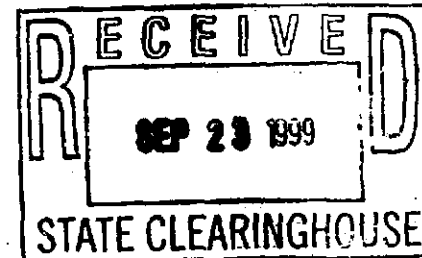
MEMORANDUM

clear
9/23/99
E

To: Project Coordinator
Resources Agency

Date: September 23, 1999

Mr. Rick Breitenbach, Assistant Director
CALFED Bay-Delta Program
1416 Ninth Street, Suite 1155
Sacramento, CA 95814



From: Steve Arthur, Chief Deputy Director
Department of Conservation

Subject: CALFED Bay-Delta Plan Draft Study Environmental Impact
Statement/Environmental Impact Report (DEIR/S) - SCH 96032083

The California Department of Conservation has reviewed the above referenced DEIR/S. Specifically we have analyzed the document with respect to seismic hazards, agricultural land conservation, and natural gas resources. We offer the following comments for your consideration.

Seismic Hazards

The Department's Division of Mines & Geology (DMG) is responsible for mapping and disseminating information on the State's geologic resources and hazards. Division seismologists and geologists have studied the geology and ground motion of the Bay-Delta region. Our expertise and experience have pertinence to the issue of Delta levee stability. Therefore, the following comments focus on Section 5.5 (Geology & Soils) of the DEIR/S.

1. The DEIR/S Technical Appendix, "Levee System Integrity Program Plan" contains a December 1998 report, "Seismic Vulnerability of the Sacramento-San Joaquin Delta Levees" (hereinafter referred to as the "Seismic Vulnerability Report"). This report contains appropriate seismology and geotechnical information (including maps, tables and diagrams) that should at least be summarized in Section 5.5. The report correctly identifies the susceptibility of the Delta levees to failure from earthquake ground motion. Currently, however, the DEIR/S fails to acknowledge this potential impact (page 5.5-2, "Potentially Significant Adverse Impacts"). Specifically, we recommend that the DEIR/S be modified to include the following items from the Seismic Vulnerability Report.
 - a. We recommend that the text on Delta seismicity (page 5.5-9 of the DEIR/S) be rewritten to include relevant material from the Seismic Vulnerability Report.

- b. Figure 5.5-4 (Faults Within and Near the Delta) does not reflect the current knowledge of DMG with regard to seismogenic faults in the Delta. For example, the Coast Range—Central Valley Blind Thrust Fault is not shown. Refer to Figure A-2 or Figure 3-1 for the DMG Statewide Model that shows the Coast Range—Central Valley Blind Thrust Fault.
- c. Figure 4.1 of the Seismic Vulnerability Report, entitled "Damage Potential Zones within the Delta", reports the earthquake susceptibility of Delta levees:

Damage Potential Zone I = 20 levee miles
of highly susceptible earthquake-induced levee failure;

Damage Potential Zone II = 301 levee miles
of medium to medium-high susceptibility;

Damage Potential Zone III = 116 levee miles
of low to medium susceptibility; and,

Damage Potential Zone IV = 223 levee miles
of low to medium susceptibility.

The information in Table 4.1 should be brought forward as part of Section 5.5 in the DEIR/S. This Table presents relevant information for the main DEIR/S text in terms of significance of seismic impacts, and feasibility of mitigation. The analysis and systematic evaluation of the seismic stability of these 660 miles of levees should be given priority as part of the mitigation of the program's seismic impacts. Included in this analysis, as well as in the above inventory, should be the levees of Sherman Island in Damage Potential Zone I. Also, the text of the Section will need to be amended to recognize the susceptibility of the Sherman Island levees, a vulnerability that is clear from Figure 4.1, but otherwise not discussed in Section 5.5.

- d. We suggest additional discussion of the soil amplification factor of 1.6 referred to in the Seismic Vulnerability Report, particularly with respect to the value's derivation. In the same report, the concept of "levee-failures-per-mile" appears to be related to how the breadth of an individual failure is measured in the field. This concept should also be explained further in the final document.
- e. Besides the 660 miles of levees evaluated in the Seismic Vulnerability Report, there are another 440 miles of levees that exist at higher elevations within the legal limits of the Delta that were not included because they retain significant

Project Coordinator and Mr. Rick Breitenbach
September 23, 1999
Page 3

depths of water only during the flood season. (Refer to page B-1 of the Seismic Vulnerability Report.) It would be useful to show a map of both types of levees, and then evaluate the probability of a winter flood (e.g., January-February 1997) occurring at the same time as an earthquake, as well as the effects of such an event on levee stability.

- f. The Seismic Vulnerability Report, Section 6, "Mitigation of Seismic Levee Vulnerability" (page 30-31) includes a good discussion of potential mitigation measures pertinent to addressing seismic impacts on levees. We suggest that the four mitigation points set forth in Section 6 are brought forward to the main DEIR/S.
2. On July 1, 1999, DMG published a new Seismic Shaking Hazard Map of California (DMG Map Sheet 48). This map was not ready until after the DEIR/S was circulated for public comment. However, the Department suggests that an extract of this map be added to Section 5.5, Geology and Soils, of the final EIR/S. We have prepared an extract for your use (attached color plate) in page-sized format. Please note that the ground motion portrayed is for the Design Basis Earthquake (DBE), which is defined in code as 10 percent chance of exceedance in 50 years, with a statistical return period of 475 years (1997 Uniform Building Code, Section 1627). This applies to all "regular" residential and commercial buildings that might be planned for the Bay-Delta area.

However, the ground motion shown on this map does not necessarily apply to levee construction, which is not under the purview of the Uniform Building Code. Therefore, we recommend the final EIR/S clearly distinguish between the ground motion parameters for residential and commercial structures within the Delta, and for the levees. Further, if some levees are considered more important than others (i.e. if levees differ in their value to the state depending on what particular levees are meant to protect), then ground motion parameters should be customized for individual levees.

Indeed, the Seismic Vulnerability Report notes that levees will be evaluated based on different parameters than for commercial, residential or essential structures. The report states that a 100-year return period, approximately a 10 percent chance of exceedance in 10-1/2 years will be used for evaluation. However, the final EIR/S needs to be clear on how the earthquake return period of 100 years was selected for levee analysis.

Also, it should be noted that the earthquake return period of "regular" residential and commercial buildings is 475 years, according to Chapter 16 of the Uniform

Project Coordinator and Mr. Rick Breitenbach
September 23, 1999
Page 4

Building Code (1997 UBC Section 1627). As previously mentioned, an earthquake with this return period is known as the Design Basis Earthquake, and has a 10 percent chance of exceedance in 50 years. While we acknowledge that the levees are not under the jurisdiction of the Uniform Building Code, we nevertheless point out that an earthquake return period of only 100 years has a low margin of safety. The final EIR/S should review the appropriateness of the Program's acceptable level of safety for the levees, or recommend that decision-makers establish an appropriate value for seismic integrity. Again, different levees might have different levels of earthquake design depending on the level of risk (e.g., protecting property versus lives).

3. We suggest that the final EIR/S use the modern term *Maximum Magnitude* (M_{max}) for various faults; these are measured in the moment magnitude scale (not the "Richter" scale as shown in the DEIR/S). Refer to DMG's Open-File Report 96-08, *Probabilistic Seismic Hazard Assessment for the State of California* (Petersen and others, 1996) for more information on this issue.
4. We are not in agreement with statements about the seismogenic primacy of the Foothills Fault System for influencing ground motion in the San Joaquin Valley (Page 5.5-19). As shown on DMG's new Map Sheet 48, *Seismic Shaking Hazard Maps of California*, published July 1, 1999, all of the San Joaquin Valley is dominated by ground motion from the Coast Range-Central Valley Blind Thrust Fault System (e.g., a 1983 Coalinga-type earthquake).
5. In Section 5.5.2, "Areas of Controversy", the fact that there are two entirely different tectonic models for the Delta, which produce substantially different ground motion predictions, should be discussed. These models are the DMG Statewide Model, published in DMG Open-File Report 96-08, and the model described in a 1998 unpublished geology consulting report by Dr. Jeffrey Unruh of Lettis & Associates. (The Unruh report was commissioned by the California Department of Water Resources especially for the CALFED project.) As mentioned, there is a significant difference between the ground motion estimates calculated by these models. Therefore, we suggest that the two models be described in the final EIR/S. Also, we suggest that the Lettis (1998) report be added to the next edition of the DEIR/S CD-ROM as a technical appendix. Unfortunately, a comparative analysis of the two models to enable a discussion of their differences has not yet been conducted.

In summary, the "Seismic Vulnerability of the Sacramento-San Joaquin Delta Levees" is a well-done report, excerpts or the entirety of which would be an asset in the main DEIR/S so that the seismic setting of the Delta is accurately reported.

Agricultural Land Conservation

The Department's Division of Land Resource Protection (DLRP) monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act, the Agricultural Land Stewardship Program, and other land conservation programs. We offer the following comments based upon our experience in agricultural land use and conservation.

1. The DEIR/S provides a good discussion of the project's potential impacts – both positive and negative – on agricultural lands and operations in the project area. The DEIR/S also provides a concise and accurate discussion of the Williamson Act and possible impacts of the project on contracted lands. Finally, the DEIR/S includes a credible list of mitigation strategies for addressing the program's impacts on agricultural lands.
2. DEIR/S Mitigation Strategy #8 calls for supporting the Agricultural Land Stewardship Program (ALSP) in acquiring easements on agricultural land. While we believe this strategy has merit, it should be noted that ALSP funds cannot be used for the required mitigation itself, pursuant to Public Resources Code Section 10243. It is possible, however, for ALSP funds to be used to leverage those funds committed by CALFED as mitigation, to provide additional protection of agricultural land resources beyond that determined necessary for mitigation. For example, if a target property consists of 600 acres and mitigation is deemed complete with only 300 acres, it is conceivable that an ALSP grant could be made to provide funding for an easement on the remaining 300 acres (assuming eligibility and selection criteria are met).

Also, the statutes and regulations governing the selection of agricultural lands for protection via ALSP contain criteria that could have value, as well, in identifying potential target lands for mitigation of program impacts.

Finally, Mitigation Strategy #8 does not specify the type of "support" that should be given ALSP. We assume that such support would be in the form of financial contributions to the ALSP Fund. If this assumption is correct, it would be consistent with current law (Public Resources Code Section 10230), which allows for the donation of money for the purchase of agricultural land conservation easements. The use of contributions is subject to appropriation by the Legislature, and is not restricted to particular geographic locations. Notwithstanding these conditions, and given the statewide implications of the Bay-Delta program, we believe that it is logical to mitigate the program's adverse effects on agricultural land using a statewide fund that could target compensatory easements strategically to counties where the greatest land conservation gain could be had. In other words, Mitigation

Project Coordinator and Mr. Rick Breitenbach
September 23, 1999
Page 6

Strategy #8 could be viewed as a statewide "mitigation banking" program for agricultural land conservation.

3. We concur with the general concept of using conservation easements to protect agricultural land as a mitigation measure for the loss or impairment of agricultural land under CEQA. The use of easements is generally consistent with CEQA, which recognizes resource replacement as an acceptable form of mitigation. Indeed, a recent (unpublished) superior court decision pointedly directed one CEQA lead agency to redo its DEIR to include the analysis of the use of conservation easements as a feasible measure to mitigate the loss of agricultural land (El Toro Land Use Planning Authority, et al v. County of Orange, et al, San Diego Superior Court # 710123, October 28, 1997).

The use of easements as mitigation for the conversion of agricultural land is not a new idea. The strategy has been used in several Northeast and Mid-Atlantic states for many years. In California, the City of Davis, Sonoma County and Caltrans offer examples of local and state governments currently using, or proposing the use of, conservation easements as a form of impact mitigation.

However, easements cannot be considered a true form of replacement mitigation. While the remaining agricultural land is left better protected by easements, the net stock of agricultural land is still diminished. This dilemma can be partially resolved by an easement "replacement rate" of greater than 1:1. Another issue is the level of replacement for different qualities of agricultural land; i.e., where the quality of land being lost is higher, should the replacement ratio also be higher? The final EIR/S should examine the appropriate easement replacement ratio(s) that should be used to mitigate for the loss of agricultural land.

4. A more typical form of mitigation is avoidance or replacement through "reclamation." The final EIR/S should include mitigation strategies that avoid the location of public improvements (including habitat restoration) on prime agricultural lands, particularly on those in agricultural preserves or under Williamson Act contract. (Government Code Section 51290 sets forth state policy "...to avoid, whenever practicable, the location of any federal, state, or local public improvements and any improvements of public utilities, and the acquisition of land therefor, in agricultural preserves. Whenever it is necessary to locate such an improvement within an agricultural preserve, the improvement shall, whenever practicable, be located upon land other than land under a contract.") The acquisition of agricultural land for non-agricultural uses under the Bay-Delta program should preferentially target lower quality or less economically viable agricultural lands.

1431(12)

Project Coordinator and Mr. Rick Breitenbach
September 23, 1999
Page 7

The enhancement of currently non-agricultural lands for productive agricultural uses should also be considered as an alternative form of mitigation of farmland conversion. The Department's Important Farmland Series maps, depending on individual counties, include a category of Farmland of Local Importance, a category that often includes lands with prime quality soils that are otherwise not cultivated or irrigated. Where fiscal, physical, regulatory or legal barriers prevent profitable farming of these lands, CALFED could explore investments in time or money to bring these lands into production in order to replace lands converted by the Bay-Delta program.

5. Please correct the Division of Land Resource Protection's web page address to <http://www.consrv.ca.gov/dlrp/index.htm> (Page 7.1-5).

Oil, Gas and Geothermal Resources

The Department's Division of Oil, Gas and Geothermal Resources (DOGGR) regulates the safe operation and closure of oil, gas and geothermal wells in California. The Bay-Delta region contains producing gas fields. As individual projects that physically affect the land surface are considered for implementation under the program, DOGGR should be contacted for well and production field locations, and for guidance on the development in or around gas fields and active or abandoned wells. Please contact the Division's District 6 office in Sacramento, at (916) 322-1110, for assistance.

The Department appreciates the opportunity to comment on the Bay-Delta programmatic DEIR/S. If you require further information on the Department's earth resources conservation and management programs, or have questions about our comments, please contact the Department's Office of Governmental and Environmental Relations at (916) 445-8733. You may also call me at (916) 322-1080.



Steve Arthur
Chief Deputy Director

Attachments

1431(13)

Project Coordinator and Mr. Rick Breitenbach
September 23, 1999
Page 8

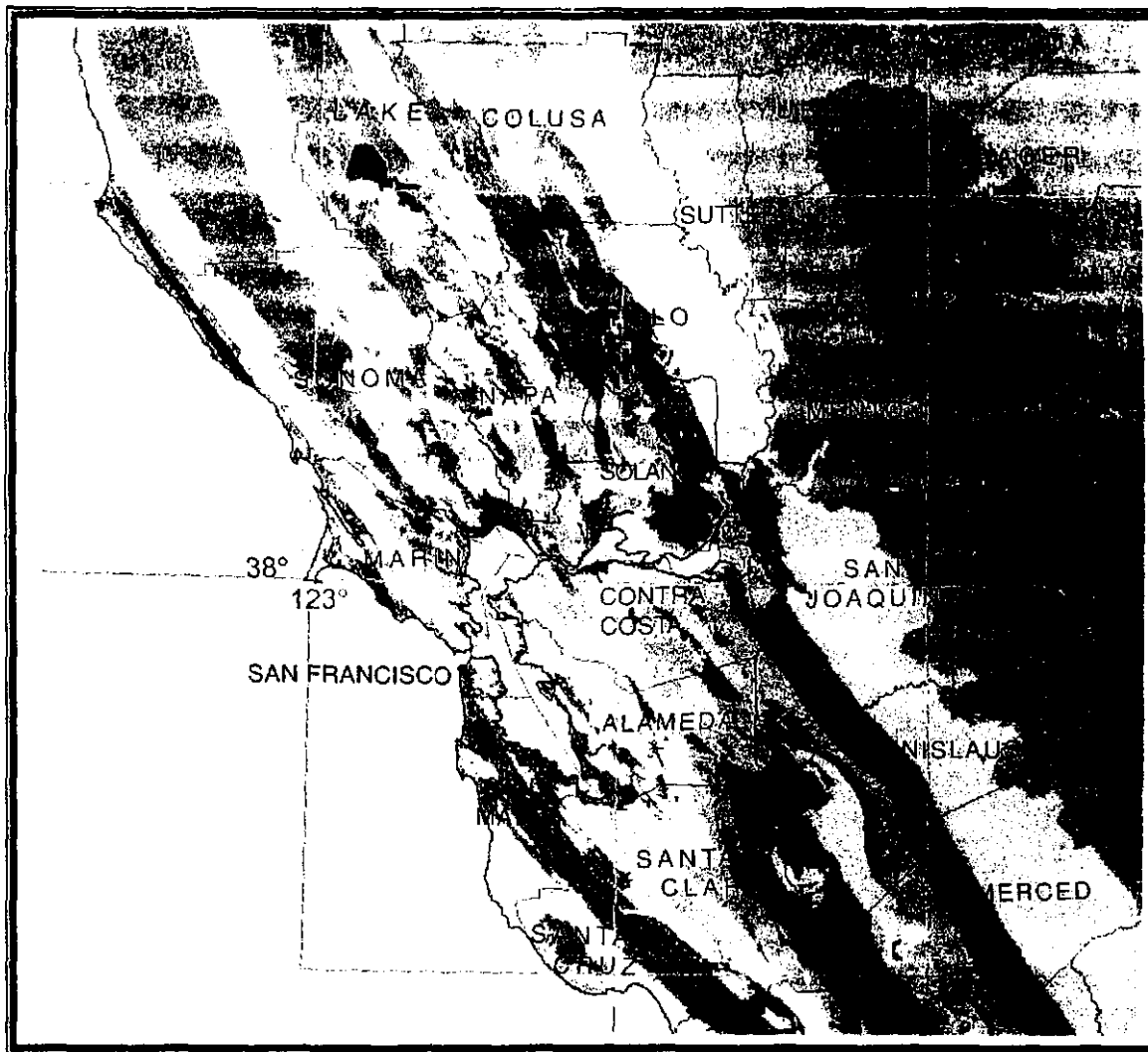
cc: Jason Marshall, Assistant Director
Office of Governmental and Environmental Relations

Luree Stetson, Assistant Director
Division of Land Resource Protection

Robert Sydnor, Senior Geologist
Division of Mines and Geology

Linda Campion
Division of Oil, Gas and Geothermal Resources, Sacramento

Robert Reid, District Deputy
Division of Oil, Gas and Geothermal Resources, District 6

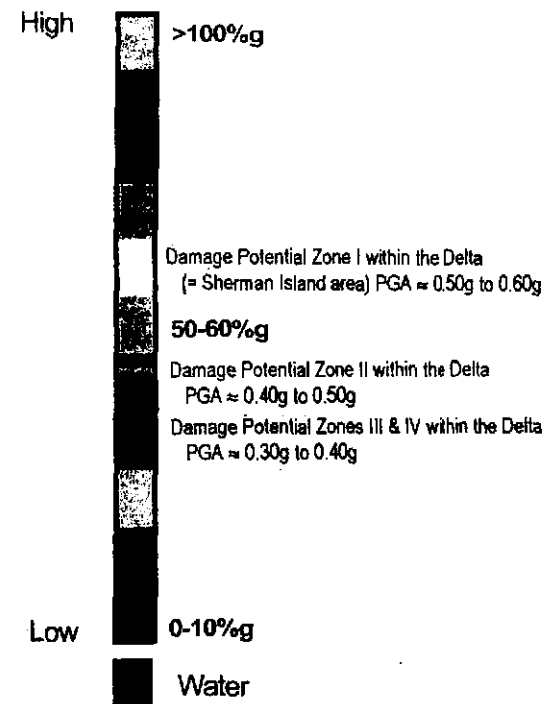


Peak Ground Acceleration in percent gravity for the Design Basis Earthquake

1997 UBC §1627, 1629.1, 1631.2
applies to all "regular" construction
residential & commercial

10% chance of exceedance in 50 years
with a
statistical return period \approx 475 years

(ground motion for levees within the Delta,
public schools, and hospitals utilize
other earthquake return periods)



extract from: **Seismic Shaking Hazard Map of California**

Calif. Division of Mines & Geology Map Sheet 48

scale: 1: 2.1 million or 1 inch \approx 38 miles or 1 cm \approx 21 km

Published by the State Geologist on July 1, 1999

For complete explanation, refer to the full-sized Map Sheet 48,
available for purchase from California Division of Mines & Geology
CDMG homepage at: www.consrv.ca.gov/dmg

1431(14)

DEPARTMENT OF CONSERVATION

DIVISION OF MINES AND GEOLOGY

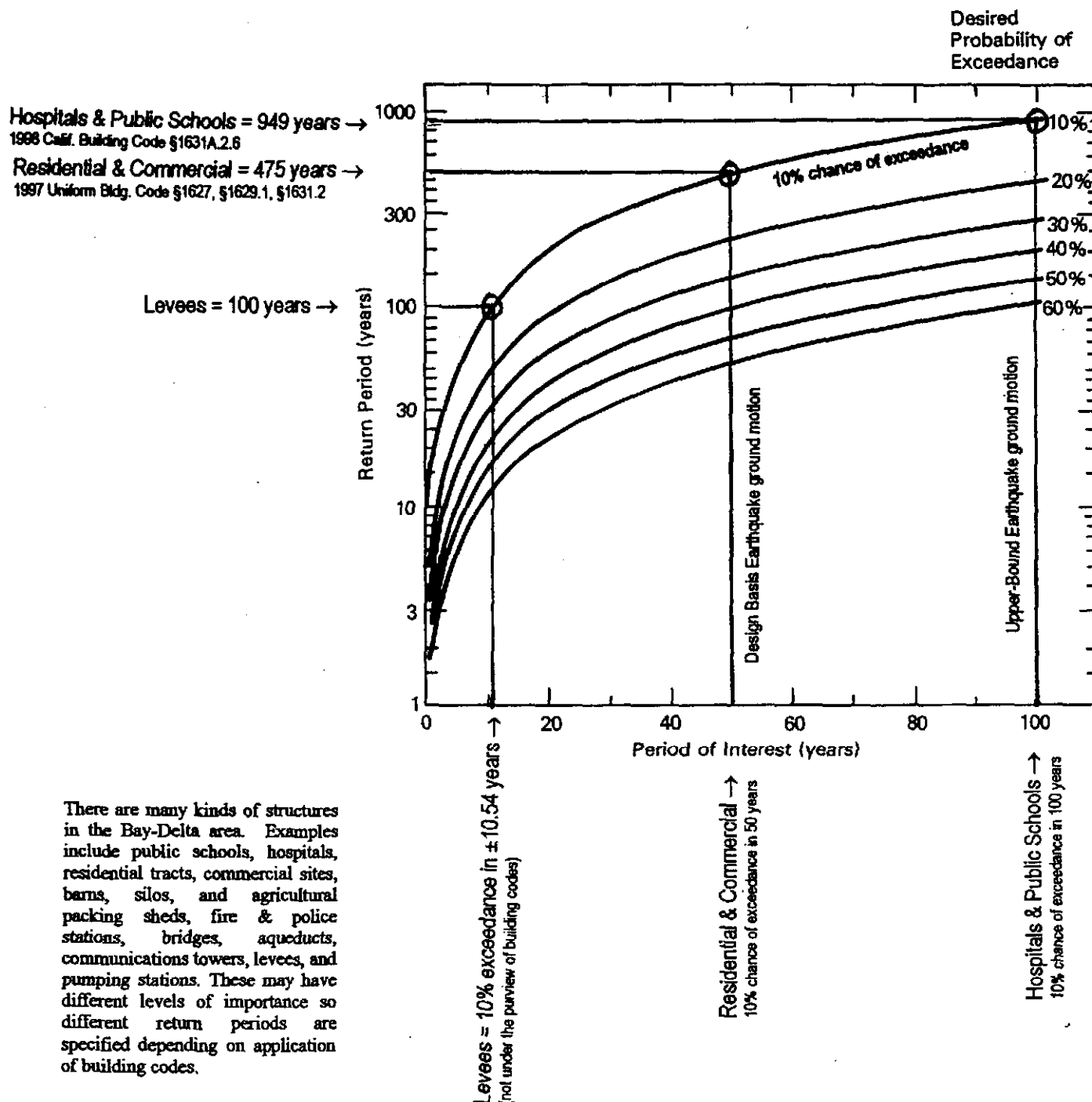
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fax (916) 322-4765

Relationship between return period, period of interest, and desired probability of exceedance during the period of interest for the Poisson model.

(modified from Figure 10.3 of L. Reiter, 1990 *Earthquake Hazard Analysis*, Columbia University Press, 254 p.)



There are many kinds of structures in the Bay-Delta area. Examples include public schools, hospitals, residential tracts, commercial sites, barns, silos, and agricultural packing sheds, fire & police stations, bridges, aqueducts, communications towers, levees, and pumping stations. These may have different levels of importance so different return periods are specified depending on application of building codes.